

ABSTRACT OF THE DISCLOSURE

A high-pressure discharge lamp lighting apparatus has a DC power source, an inverter for converting a DC supplied from the DC power source to an AC, an AC path for transmitting the AC output from the inverter to a high-pressure discharge lamp, a resonator having a predetermined resonance frequency, and interposed in the AC path, an inverter controller for controlling the inverter according its variable frequency oscillation function by selectively impressing a first frequency in the stable operation window free from causing acoustic resonance in the high-pressure discharge, and a second frequency higher than the first frequency to the inverter, a lamp wattage detector for detecting the lamp wattage of the high-pressure discharge lamp from a voltage across the high-pressure discharge lamp and a current flowing through the high-pressure discharge lamp, and a time ratio controller for controlling a the time ratio based on a lamp voltage of the discharge lamp detected in the steady lighting state using a lamp wattage detector so as that the inverter outputs at the first frequency and the second frequency are alternately impressed to the high-pressure discharge lamp at an adequate time;